

Remarks

Applicants understand the Examiner withdrew all rejections under 35 U.S.C. §102. Therefore, although the Office Action still includes such 35 U.S.C. §102 rejections, Applicants intentionally ignored them and respectfully request the Examiner correct Applicants if Applicants are mistaken.

The Examiner maintained the rejection of claims 3, 6, 16, and 19 under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 4,820,386 to LaConti in view of U.S. Patent No. 6,830,730 to Rhodes. The Examiner also maintained the rejections of claims 1, 3, 6, 11-12, 14-16, and 18-21 as being unpatentable under 35 U.S.C. §103 over by LaConti in view of U.S. Patent No. 5,612,225 to Baccanti.

Independent claims 3 and 16 relate to a gas chromatograph column coupled to a reactor for separating the component in the sample; at least two chemical filters, each for filtering out a different undesirable component and for permitting the desired component to pass through based on the chemical properties of the undesirable and desirable components; and a detector directly coupled to each of the at least two filters for detecting the desired component.

Independent claims 1 and 11 relate to an electrochemical gas sensor directly coupled to a gas chromatograph column.

Rhodes does not teach or suggest a gas chromatograph column anywhere. In fact, an electronic search of Rhodes failed to find the term "chromatograph". Therefore, Rhodes cannot have a sensor directly coupled to a chromatograph column. Rhodes also does not teach or suggest two chemical filters, each for filtering out different undesirable components and for permitting the desired component to pass through based upon chemical properties of the undesirable and desirable components. The fil-

ter 110, 460 disclosed in Rhodes relates to a mechanical filter where solid particles or liquids are prevented from traveling through. In fact, Rhodes teaches away from Applicants' claimed chemical filter because by disclosing that the filter is made of a chemically inert material. Finally, Rhodes shows its filters 110, 460 far removed from the detector 560/570 (figure 1) and therefore cannot have the filters directly coupled to the detector.

Baccanti does not teach or suggest an electrochemical sensor directly coupled to a gas chromatograph column. In fact, Baccanti discloses a means 7 for removing carbon dioxide placed between the detector 8 and the chromatograph column 6, and therefore direct coupling is not possible. Baccanti also does not teach or suggest two chemical filters, each for filtering out different undesirable components and for permitting the desired component to pass through based upon chemical properties of the undesirable and desirable components. Instead, Baccanti discloses a single means 7 for removing particles as opposed to Applicants' invention where two filters are claimed, each for removing a different undesirable component. Applicants note its two filters are not merely twice the means 7 disclosed in Baccanti. Applicants' two filters each filter a different undesirable component, thereby making the claimed invention far more effective and efficient. Additionally, a detector directly coupled to each filter enhances efficiency since detection is theoretically doubled when compared with Baccanti.

Laconti lacks any structure outside the alleged electrochemical gas sensor to which it relates. Therefore, there is no direct attachment of LaConti's sensor to anything, nevermind a gas chromatograph column. In addition, LaConti lacks any teaching or suggestion for a gas chromatograph column anywhere. In fact, an electronic search of Rhodes failed to find the term "chromatograph". Therefore, LaConti cannot have a sensor directly coupled to a chromatograph column. LaConti also does not teach or suggest two chemical filters, each for filtering out different undesirable components and

for permitting the desired component to pass through based upon chemical properties of the undesirable and desirable components. Instead, LaConti discloses a single filter 36 for removing particles as opposed to Applicants' invention where two filters are claimed, each for removing a different undesirable component. Applicants note its two filters are not merely twice the filter 36 disclosed in LaConti. Applicants' two filters each filter a different undesirable component, thereby making the claimed invention far more effective and efficient. Additionally, a detector directly coupled to each filter enhances efficiency since detection is theoretically doubled when compared with LaConti.

Because LaConti, Baccanti, and Rhodes in any combination do not teach or suggest at least two chemical filters coupled to the reactor, each filter for filtering out a different undesirable component and for permitting the desired component to pass through based on the chemical properties of the components, and a detector directly coupled to each of the at least two filters for detecting the desired component, the cited references do not arrive at Applicants' claimed invention without some modification to the combined art. Moreover, no reference in any combination teaches or suggests an electrochemical gas sensor directly coupled to a gas chromatograph column. In fact, all of the art teach away from Applicants' invention by limiting their respective inventions to a single filter coupled to a reactor. Applicants' invention effectively doubles the efficiency by using two filters, each for filtering out a different component. Additionally, Rhodes teaches away from Applicants' claimed invention by specifically disclosing its filter as being chemically inert, which is the opposite of Applicants' chemical filters for filtering components based on its chemical properties.

For references to be properly modified in a rejection under 35 USC §103, there must be some teaching or suggestion in the references to make the suggested modification. Absent the requisite teaching or suggestion, the modification would be improper. As mentioned above, there is no teaching or suggestion for at least two filters

coupled to the reactor, each filter for filtering out a different undesirable component and permitting the desired component to pass through, and a detector coupled to each of the at least two filters for detecting the desired component. There is also no teaching or suggestion for directly coupling an electrochemical gas sensor with a gas chromatograph. Without the requisite teachings or suggestions to modify the art to arrive at the claimed invention, such modification is improper. Applicants' claimed invention is even less obvious given Rhodes teaches away from a chemical filter by requiring a chemically inert filter.

Accordingly, Applicants' traverse the Examiner's 35 U.S.C. §103 rejections of and respectfully submit these rejections be withdrawn.

Respectfully submitted,

/ Wesley W. Whitmyer, Jr./

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Wesley W. Whitmyer, Jr., Registration No. 33,558
David Chen, Registration No. 46,613
Attorneys for Applicants
ST.ONGE STEWARD JOHNSTON & REENS LLC
986 Bedford Street
Stamford, CT 06905-5619
203 324-6155